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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,011	12/20/2005	Ashutosh Joshi	0-05-106	9060

7590 06/14/2007
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Roach Brown McCarthy & Gruber
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EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1753

MAIL DATE	DELIVERY MODE
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06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,011

Applicant(s)

JOSHI ET AL.

Examiner

Edna Wong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007 and 09 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date February 9, 2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Response to Amendment

This is in response to the Amendment dated April 30, 2007 and May 9, 2007.
The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Response to Arguments

Specification

The disclosure has been objected to because of minor informalities.

The objection of the disclosure has been withdrawn in view of Applicants' amendment

Claim Objections

Claim 7 has been objected to because of minor informalities.

The objection of claim 7 has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 112

Claims 1-18 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 1-18 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims 1-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over **CS 274995** ('995) in combination with **Parrish** (US Patent No. 6,793,903 B1).

The rejection of claims 1-17 under 35 U.S.C. 103(a) as being unpatentable over CS 274995 ('995) in combination with Parrish is as applied in the Office Action dated November 21, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that MgO is mentioned only as an additional catalyst that may be used (column 3, line 35), and no special traits thereof are mentioned. Furthermore, the catalytic coatings referred to in Parrish are optional (see column 3, lines 35-39).

In response, the disclosure of reference must be considered for what it fairly teaches one of ordinary skill in the art, pertinence of non-preferred disclosure must be reviewed in such light. *In re Meinhardt* 157 USPQ 270 [MPEP § 2123 and § 2141.02(VI)].

Applicants state that since neither '995, nor Parrish, point to the special characteristics of MgO, which are at the base of the instant invention, those two publications cannot be deemed as depriving the instant application of inventiveness.

In response, Parrish teaches MgO (col. 3, line 35). A compound and all of its properties are inseparable. *In re Papesch*, 315 F.2d 381, 391, 137 USPQ 43, 51 (CCPA 1963) [MPEP § 2141.02(V)].

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Applicants state that Parrish is not relevant to the field of the instant invention. Parrish refers to a gas phase reaction, while the instant invention refers to an aqueous liquid phase reaction. Therefore, no one skilled in the art would refer to Parrish when contemplating the instant invention.

In response, the prior art is deemed to be analogous as a secondary reference if it addresses the same problem as does the primary reference. *In re GPAC Inc.*, 35 USPQ 2d 1117, 1120, 1121 (FC 1995).

The problem would have been the decomposition of hydrogen peroxide.

A reference is reasonable pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem (MPEP § 2141.01(a)).

Applicants state that Parrish mentions Fe(II) and Cu(II) as preferable catalysts. Those catalysts are mentioned in '995 as well, so that any person familiar with the art following '995 would use either Fe(II) or Cu(II), rather than using MgO which is not mentioned as being preferable by Parrish, and is not mentioned at all in '995.

In response, the disclosure of reference must be considered for what it fairly teaches one of ordinary skill in the art, pertinence of non-preferred disclosure must be reviewed in such light. *In re Meinhardt* 157 USPQ 270; and MPEP § 2123 and § 2141.02(VI).

Applicants state that Parrish teaches that high concentrations (over 50%) of H_2O_2) are unstable at high temperatures. However, this is irrelevant to the present invention in which high temperatures are not required.

In response, claim 1 as presently written are open to any concentration of H_2O_2 and any temperature.

Applicants state that Parrish relates to the decomposition of H_2O_2 in gas phase on heated surfaces, so as to produce hydroxyl radicals, wherein the instant invention relates to the production of hydroxyl radicals in a solution.

In response, Parrish teaches that an enriched hydrogen peroxide solution **14** impinges on the heated surface **18** (preferably heated to 200°-500°C) where oxidative free radicals, hydroxyl and hydroperoxyl, are produced (col. 3, lines 20-23). The decomposition of H_2O_2 is in the solution phase when it impinges on the heated surface.

Applicants state that Parrish does not teach of any MgO additions, at any concentrations, as mentioned above, since the term "concentration" has nearly no meaning in the context of Parrish.

In response, claim 1, lines 5-6, recite "supplying magnesium oxide to said mixture as a suspended catalyst".

The catalyst in the present claim 1 is open to being suspended on a support. There is no magnesium oxide concentration recited in the present claim 1.

It is well settled that unpatented claims are given the broadest, most reasonable interpretation and that limitations are not read into the claims without a proper claim basis therefor. *In re Prater* 415 F. 2d 1393, 162 USPQ 541 (CCPA 1969); *In re Zeltz* 893 F. 2d 319, 13 USPQ 1320.

Applicants state that nobody, and still less a skilled experimenter, would expect that conditions selected for high temperature reactions in gas phase would be suitable for room temperature reactions in water, let alone if the two processes have totally different goals, the former removing nitric oxide from gases, the latter removing organic acids from waste waters.

In response, Parrish teaches one having ordinary skill in the art, with the goal of decomposing a hydrogen peroxide solution, that the decomposition of hydrogen peroxide may occur on oxide surfaces such as MgO. The key element for the high temperature decomposition of hydrogen peroxide is contact with a heated surface **18**, regardless of whether the surface has a catalytic coating **20** or not (col. 3, lines 35-38).

Thus, one having ordinary skill in the art would have recognize that the heat supplied by CS '995 (from the UV irradiation) and Parrish (from the heated surface **18**) are comparable because they both decomposing a hydrogen peroxide solution to produce oxidative free radicals, hydroxyl and hydroperoxyl.

Although Parrish uses the oxidative free radicals in a gas phase reaction and CS '995 uses the oxidative free radicals in a liquid phase reaction, the only modification of

the method disclosed by CS '995 one having ordinary skill in the art would have been making was substituting a photocatalyst disclosed by CS '995 with a catalyst disclosed by Parrish.

This would have been suitable because the liquid phase of CS '995 is not altered and the gas phase of Parrish is not altered.

Applicants state that Parrish mentions that high concentrations (over 50%) of H_2O_2 are unstable at high temperatures. This is irrelevant to the instant invention, which does not relate to high temperatures, and, further, relates to relatively low concentrations of H_2O_2 , namely 10-50 ppm.

In response, claim 1 as presently written are open to any concentration of H_2O_2 and any temperature.

Applicants state that the presence of radicals cannot make two inventions equivalent; both cited documents, as well as the instant application comprise radicals. In Parrish radicals as created in the gas not the liquid phase, and in '995 the radicals are created in a different system, lacking the catalyst of the instant invention. Thus, the only connection that can be made between those three documents in hindsight.

In response, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time

the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The rejection was based on what is present in the prior art.

II. Claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over **CS 274995** ('995) in combination with **Parrish** (US Patent No. 6,793,903 B1) as applied to claims 1-17 above, and further in view of **DD 51638** ('638).

The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over CS 274995 ('995) in combination with Parrish as applied to claims 1-17 above, and further in view of DD 51638 ('638) is as applied in the Office Action dated November 21, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicants' remarks have been fully considered but they are not deemed to be persuasive.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

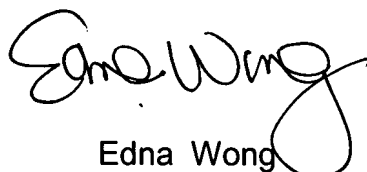
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Edna Wong". The signature is fluid and cursive, with the first name "Edna" and last name "Wong" clearly distinguishable.

Edna Wong
Primary Examiner
Art Unit 1753

EW
June 9, 2007